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# SKETCH OF A JOURNEY TO THE NORTH- WESTERN PARTS OF THE CONTINENT OF NORTH AMERICA DURING THE YEARS 1824-25-26-27.

By DAVID DOUGLAS, F. L. S.

While so much geographical information has, of late years, been added to the general stock of knowledge, and so many distinguished individuals have assiduously devoted their talents to the investigation of the northern parts of this country, the Horticultural Society of London, desirous of disseminating among the gardens of Britain the vegetable treasures of those widely extended and highly diversified countries, resolved on sending a person experienced in the modes of collecting and preserving botanical subjects, and of transmitting seeds to England. I had the pleasure of being the individual selected, having previously extensively traveled on the eastern parts of the same Continent for a similar purpose. Before entering on this brief statement, I must beg to return my grateful thanks to John Henry Pelly, Esq., Governor, and Nicholas Garry, Esq., Deputy-Governor of the Honorable the Hudson's Bay Company, for the kind assistance I, on all occasions, experienced at their hands, and for much valuable information received both before and after my arrival in England. To the enlightened zeal with which these gentlemen forward every enterprise for the advancement of science, and to the warm interest they always showed on my behalf, I am happy to have this occasion of bearing my grateful, though feeble testimony. I also beg leave to thank the different residents, partners, and agents of this company, both individually and collectively.

I embarked on Sunday, the 25th of July, on board the Hudson's Bay Company's brig, William and Ann[e], Captain Henry Hanwell, destined for the entrance of the River Colum-

bia. To beguile the monotony attending long voyages, I held myself fortunate in having a companion in Dr. Scouler\* of Glasgow, a man skilled in several, and devotedly attached to all, branches of Natural History, a pupil of Dr. Hooker, by whom he was powerfully recommended to the H. B. C. as surgeon to the vessel, in order that he might have an opportunity of prosecuting his favourite pursuit. A few days of favorable weather carried us clear of the shores of England, and on the 9th of August we passed the high grounds of the Island of Porto Santo, and anchored on the following afternoon in the Bay of Funchal, Madeira. So far as the experience of a two days' visit went, I was much gratified with this delightful island. My companion and I visited the summit of one of the highest mountains, stocking our herbaria with several interesting, though not new plants; we also walked into the vineyards in the neighborhood of the town, saw the hospital, churches, and other establishments, and resumed our voyage on the 12th of August towards Rio Janeiro. As we approached the Equator, the temperature increased, its greatest height being 84 degrees in the shade at 3 P. M. on the 21st, and its minimum 59 degrees. The mornings were peculiarly pleasant and fine. Near the Cape de Verd Islands, the *Exocaetus volitans* was frequently seen, skimming from wave to wave, and sometimes dropping on the deck of our vessel, which lay very low in the water; the screaming noise of *Phaeton aethereus* and the never absent *Procellaria pelagia*, or *Mother Cary's Chicken*, formed the only alleviation to the monotony of sky and water. For ten degrees on each side of the Line, the weather was very variable, sometimes calm, sometimes with thunder and lightning, and sudden gusts of wind, which rendered this part of our voyage somewhat tedious. We, however, arrived within sight of Cape Frio on the 26th of September. Towards evening the ship was surrounded by a vast variety of sea birds, and I saw for the first time the Albatross, *Diomedea exulans*.

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The magnificent prospect of the harbor of Rio is well known. One feature in Brazilian scenery which particularly strikes the European eye is, that the palms always grow largest on the summit of the highest hills. During my stay I had the pleasure to become known to William Harrison, Esq., residing at Botofogo, through whose instrumentality many beautiful plants\* have been introduced to England, and who bestows great pains on collecting subjects in other departments of Natural History, illustrative of Brazil. In company with this gentleman and his relation, Mr. Henry Harrison, I made a short journey to the interior, where I was excessively gratified with the rich luxuriance of the forest, though the season was too early to display it in all its glory, and particularly delighted with the curious and endlessly varied forms of the *Orchideae*. Mr. Harrison cultivates with great success about seventy species of this family of plants, by simply nailing them to the garden wall, and giving them the assistance of the bark or wood whereon they naturally grew, to aid them in climbing and supporting themselves. He possesses also an aviary, containing several rare and beautiful native birds.

I also made the acquaintance of the late John Dickson, Esq., surgeon, R. N., who was never so happy as when he had the opportunity of doing any act of kindness. On the 15th of October I quitted this charming place with much regret, increased by having been scarcely able to add any dried plants to my collection, owing to the earliness of the season and the continued rain. For a few days, until we got clear of land, the weather was changeable, accompanied by wet in the evenings.

At 4 A. M. on Tuesday, the 19th of October, a fine breeze sprang up, and we bore away for the south, gradually leaving the fine weather. Off the River Plata, in latitude 37 degrees south, longitude 37 degrees west, immense shoals of *Fucus pyriformis* passed the ship, some specimens of which

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\* Of these, especially the Epiphytes, a very great number have been figured in the Botanical Magazine and Register.

measured sixty feet in length, with a stem, at the thickest part, of three inches in diameter. On the root was a variety of *Asterias*, *Beroe*, and other *Molluscae*. In this parallel *Procellaria Capensis* and *P. fuliginosa* began to be common, and I captured several with a small hook and line. In passing between the mainland and the Falkland Islands, November 5, an indescribable and piercing chillness told us we were drawing near the dreary and inhospitable regions of Cape Horn, of which in a few days longer we became fully aware.

While within the parallels of 50 degrees and 59 degrees south latitude, I caught sixty-nine specimens of *Diomedea*, consisting of *D. exulans*, *fuliginosa*, and *chlororhynchos*; the last, though a smaller bird than the first, reigns lord paramount over the rest, and compels them all to flee at his approach. It is stated by most authors that these birds are taken with the greatest ease during calm weather, but I have invariably found the reverse to hold good; it was only during the driving gusts of a storm that I could secure them, and on such occasions they fight voraciously about the bait, the hook often being received into the stomach. The appearance of these birds is grand and majestic; the largest which I ever saw measuring twelve feet four inches, from tip to tip of the extended wings, and four feet from the point of the beak to the end of the tail. As respects their flight, the same remarks apply to all the species. When sitting on the water their wings are raised exactly like a swan; when feeding they are somewhat higher, with a constantly tremulous motion like those of the hawk tribe; and when elevating themselves from the water to soar in the air they first walk the water, skimming the surface with the points of their pinions for the distance of several hundred yards, before they seem able to raise themselves, which they finally do with the utmost grace, and with scarcely any apparent movement of their wings. They are of a bold and savage disposition, which is especially displayed when they are captured.

Of *Larus* and *Procellaria* I caught many by the same means—a hook baited with fat pork. In these latitudes a

white-striped porpoise was observed, of smaller size, but equal velocity in its motions with the common one. Till we passed the 50 degrees parallel of south latitude on the Pacific side of the continent, we were subject to boisterous weather, high seas, hail, rain, and thick fogs. On the 14th of December the Island of Massafuera was distinctly seen, distant seven leagues, appearing like a dark bare rock. We passed near enough to ascertain that it was far from being fertile, though a little verdure might be descried in the valleys, with some stunted trees on the hills, and a few goats browsing on the rocky clefts. A high surf breaking on the beach prevented a boat from being sent on shore, and we consequently bore away for the Island of Juan Fernandez; the wind failing, however, we did not reach it till ten days afterwards. This classic island, which might be properly termed the Madeira of the southern hemisphere, is very mountainous and volcanic; its hills beautifully clothed with verdure to their summits, which, except in very clear weather, are enveloped with clouds, the scorched and rocky soil admirably contrasting with the deep green of its lovely vegetation. On the second day we landed in Cumberland Bay, so named by Anson in 1741. As we approached the shore we were surprised to observe a small vessel lying in the bay, and on the beach a little hut, with smoke arising from it. When on the point of stepping from the boat a man, to our astonishment, sprang from the bushes and directed us to a sheltered creek. He gave us the following account of his adventures. His name is William Clark, a native of Whitechapel, London, and being a sailor, came to the coast of Chili about five years ago, in a Liverpool vessel, called Solland, and was there discharged. He is now in the employment of the Spaniards, who visit Juan Fernandez for the purpose of killing seals and wild cattle, both of which are plentiful. His companions, five Spaniards, were on the other side of the island, following their customary pursuit, and came to see him once a week, during which time he was left to take charge of the little bark and other property. The poor fellow, when he first observed us,

took us for pirates, as we were all armed, and abandoning his hut, fled to the woods, but hearing us speak English, he sprang from his retreat and welcomed us with a pleasure which it would be difficult to describe. He had spent five weeks here, and meant to stay about as much longer. His clothing consisted of a pair of coarse woolen trousers, of which it would be hard to detect the original material and color, with a cotton and a flannel shirt, and a hat (he preferred, however, going bareheaded), but no coat. The surgeon and I gave him all that we could spare from our own slender stock, for which he was very thankful. His little hut was built of stones and turf, thatched with the straw of the wild oat. In one corner lay a bundle of straw and his blanket; a log of wood to sit upon composed all the furniture. His only cooking utensil was a common castiron pot, with a wooden bottom, in which he boiled his food by sinking it a few inches in the floor of his dwelling, and placing the fire round the sides. He longed to taste roast beef (having had none for seven years), and one day tried to bake some, as he termed it; but the bottom of his culinary apparatus, as might be expected, gave way in the process, so that poor Clarke was unable to accomplish his new fashion of preparing the national dish.

It was agreeable to find that this poor exile possessed a good deal of information; his library amounted to seventeen volumes—a Bible and common prayer book, which he kept concealed in a secret place when his Spanish companions were with him; some odd volumes of “*Tales of my Landlord*” and “*Old Mortality*;” several of voyages, and Cowper’s poems, out of which he had learnt by heart the one upon Alexander Selkirk; and what is still more worthy of notice, a finely bound copy of “*Robinson Crusoe*,” of which the poor fellow might himself be considered the latest and most complete edition. Like most English sailors, he had no aversion to rum; I gave him a single dram, which, as he had been long unaccustomed to it, made him forget his exile, and, like the heroes of Troy,

“He fought his battles o’er again,  
And slew the slain three times.”

A few years ago the Spaniards formed a colony here, but it is now abandoned, the houses and fort are destroyed, and twenty-six pieces of large cannon lay upon the beach. The vestiges of a church are still to be seen, with the following inscription upon the lintel of the door: "*La casa de Dios es la puerta del cielo, y se colocada, 24 Septiembre, 1811.*" The house of God is the gate of heaven, built 24th September, 1811. Near this is a circular oven built of London fire-brick, seven feet in diameter within, bearing a date 1741, and therefore probably built by Anson during his residence. Some pigeons, of a small blue species, now occupy it as their cote. There were eggs in, but no young ones; I pointed it out to Clark, and advised him to make use of this colony. In the old gardens were *Peaches* of three or four sorts, growing luxuriantly with fruit about half ripe; *Quinces*, *Apples*, and *Pears*. We took some of these fruits for puddings, with abundance of *Figs* in a vigorous state of bearing. *Vines* thrive well, and were in blossom. The only fruit which was, however, in perfection, was a large, pale-reddish *Strawberry*, of which the fruit had a not unpleasant flavour; the leaves, stem, and calix very downy. I dried a paper full of its seeds lest the species should prove indigenous to this island or the coast of Chili.

Before leaving Juan Fernandez I sowed a small quantity of *Vine*, *Pears*, and other fruit-seeds which I had brought with me, and a portion of culinary vegetables, leaving some with Clark, whom I recommended to try them in various parts of the island, as radishes were the only vegetable he had. We spent part of a day in fishing, and caught a sort of rock cod and a small fish, which was unknown to me. Both were good eating. On quitting the shore Clark presented us with a fine female goat (not, however, one that had belonged to Robinson Crusoe, as it was quite young); we left him standing on a large stone on the beach, expecting to see us again the next morning, but hardly had we reached the ship when a strong easterly wind set in, and we were speedily carried far from that enchanting spot, and from my new and

interesting acquaintance, Clark. No pen, indeed, can correctly describe the charming and rural appearance of this island,\* the numerous rills descending through the valleys, overshadowed by luxuriant verdure, and terminating in dark recesses and rocky dells, where waved the feathery fronds of *Lomatia*, *Aspidia*, and *Polypodia*, several species of which are new and of truly princely form and growth. On the hills

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\*Mrs. Marie Graham (now Mrs. Callcott) gives a no less charming account of Juan Fernandez, and the view from her talented pencil engraved in her "*Journal of a Residence in Chili*" bears her out in her description. "It is," she says, "the most picturesque place I ever saw, being composed of high perpendicular rocks, wooded nearly to the top, with beautiful valleys; and the ruins of the little town in the largest of these heightens the effect. It was too late to go ashore when we anchored; but it was bright moonlight, and we stayed long on the deck at night, admiring the extraordinary beauty of the time." "The valleys are exceedingly fertile, and watered by copious streams, which occasionally form small marshes, where the *Panke* grows very luxuriantly, as well as water cresses and other aquatic plants. The little valley where the town is, or rather was, is full of fruit trees, and flowers, and sweet herbs, now grown wild; and near the shore it is covered with radishes and seaside oats. After dinner I walked to the valley called Lord Anson's park; and on our way found numbers of European shrubs and herbs,

'Where once the garden smiled,  
And still where many a garden-flower grows wild:'

and in the half-ruined hedges, which denote the boundaries of former fields, we found apples, pears, and quince trees, with cherries almost ripe. The ascent is steep and rapid from the beach, even in the valleys, and the long grass was dry and slippery, so that it rendered the walk rather fatiguing, and we were glad to sit down under a large quince tree on a carpet of balm, bordered with roses, now neglected, and rest, and feast our eyes with the lovely view before us. Lord Anson has not exaggerated the beauty of the place, or the delights of the climate; we were rather early for its fruits; but even at this time we have gathered delicious figs, and cherries, and pears, that a few more days' sun would have perfected. I was quite sorry to leave our station in the park and return to the landing place to embark for the dark close ship."

"The next morning," she remarked, "I had reached a lonely spot, where no trace of man could be seen, and where I seemed to have no communication with any living being. I had been some hours alone in this magnificent wilderness; and thought at first I might begin with exaltation to cry,

'I am monarch of all I survey,  
My right there is none to dispute,'

yet I very soon felt that utter loneliness is as disagreeable as unnatural; and Cowper's exquisite lines again served me—

'Oh solitude! where are the charms  
That sages have been seen in thy face?  
Better dwell in the midst of alarms,  
Than reign in this horrible place.'

And I repeated over and over the whole of the poem, till I saw two of my companions of the morning coming down the hill, when I hurried to meet them, as if I had really been 'out of humanity's reach.'"—ED.

grow several kinds of *Escallonia*, *Berberis*, *Lobelia*, *Hordeum*, and *Avena*. During my short stay I gathered seventy distinct and highly interesting plants. The species of birds were few, and not beautiful; I killed a *Strix*, and several of the dark kind of *Columba*, which is very abundant.

Our course was then directed to the Gallipagos, lying under the Equator, in longitude 80 degrees west, which we pleasantly gained on the 9th of January, 1825, having kept our Christmas day in latitude 37 degrees south, longitude 84 degrees west, by feasting on the goat which Clark had given us, and drinking the health of our friends in England. The heat is by means so oppressive in the same latitude on the Pacific as the Atlantic Ocean, for though the difference in the mercury is trifling, there is a cooling breeze which always renders the air agreeable. We passed along the east side of Chatham Island, which is mountainous, and apparently bare of vegetation; and went on shore the following day on James's Island, about thirty-seven miles further west. The whole of the Gallipagos are mountainous and volcanic, with vestiges of many craters, covered with lava, but the hills do not seem to exceed 2,000 feet above the level of the sea. Their verdure is scanty, as compared with most tropical countries, owing, apparently, to the parched nature of the soil and the absence of springs of fresh water. The only spring I saw was flowing from a crevice in one of the craters; some of the trees attained a considerable size in the valleys, but they are not numerous, and with little variety of species. The birds, however, are abundant, and some of them exceedingly handsome, but so ignorant were they of man's devices that they suffered themselves to be killed with a stick, so that a gun was only needed when they sat high on the top of a tree or rock. Many of the smaller kinds perched on my hat, and even unconsciously settled on the gun (that instrument of their destruction) which I carried on my shoulder. During my visits to the island of two hours a day for three days I killed forty-five individuals of nineteen genera, all of which I skinned carefully, and had then the mortification of losing

all but one, a species of *Sula*, from the constant rain that prevailed for twelve days after leaving the Gallipagos. Among them were two kinds of *Pelican*, four of *Sula*, and four *Hawks* (one of the latter was particularly fine, of nearly an orange color), and a very small *Pigeon*. A species of rock cod was so abundant near the shore as to be taken without any bait, and the sharks were so voracious as to bite continually at the oars, as their points were raised from the water. The woods teemed with land tortoises; some weighed 400 pounds, and the shores with turtle. With my collection of plants I was almost as unfortunate as that of birds—out of the 175 species which I gathered I could save but fifty, and these in a very miserable state, as I had no place below in the vessel where I might store them, nor could I pack them damp, and the rain ruined everything exposed on the deck. There was nothing, however, which I regretted so much as the destruction of a specimen of a new *Lacerta*, from twenty to thirty inches long, of a dark orange color, and with a rough, warty skin. We had made good soup of these creatures when upon the island. Never did I experience greater mortification than from the loss of these collections, the Gallipagos have been so little visited by scientific persons, that everything becomes of interest which is brought from thence, and I have now little or nothing to show that I have been there! I have, however, secured seeds, in a good state, of a very singular species of *Cactus*, which grows in the valleys. The trunk is two or three feet in diameter, and from forty to fifty feet high; it belongs to the section *Opuntia*, and has large bright yellow flowers, and very long flexible spines. Also of a fine *Gossypium* or cotton plant, which is a shrub four to ten feet high, with yellow blossoms and yellow cotton; and of a plant which will probably be found to belong to the *Coniferae*. The thermometer stood frequently at 96 degrees, and the heat was most oppressive; on one occasion, when the rain ceased for an hour, and the sun broke forth, it raised such a steam from the ground as proved almost suffocating.

After leaving James's Island, we passed along the east

side of Albemarle Island, so near as to ascertain that it was inhabited, from seeing lights upon it after dark; some blue lights which were sent off from our ship were also answered, but instead of being able to land, we were suddenly driven off the shore by a tremendous thunder storm. Never did I witness anything equal in grandeur and singularity to the vividness and curious forms of the flashes of lightning; four tons of water were obtained from the sails and deck, which proved a most acceptable relief to us, increasing our allowance, and enabling us to wash our clothes. The remainder of our voyage within the tropics was attended with variable winds, frequent rain, and almost nightly storms of thunder and lightning. In latitude 34 degrees north, I caught an undescribed species of Albatross, akin to *Diomedea fuliginosa*, but a smaller and less powerful bird. The *D. exulans*, as found in the higher latitudes of the Pacific, is much smaller than it is in the Southern Hemisphere, and will probably prove a distinct species. Our second mate, who kindly assisted me in taking these birds (and, as I mentioned before, they can only be captured in the most stormy weather), fell upon the wet deck, being driven down by the violence of the gale, and fractured his thigh so severely as to suffer most dreadful torture for several succeeding weeks.

On the 12th of February we were in the latitude of the Columbia River, longitude 136 degrees west, but the weather was so boisterous, with such a tremendously heavy sea running; that we were obliged to lay to, day after day, endeavoring repeatedly to enter, for six weeks, up to the 1st of April, and suffered more storms than we had done during the whole of our previous voyage of eight months. On the 3rd of April we saw Cape Disappointment twenty-eight miles ahead, and were approaching it with a fair breeze when a strong westerly wind again drove us out to sea; a second attempt was made three days after, when we got within four miles, but with no better success. In short, we could declare the hurricanes of Northwest America to be a thousand times worse than those of the noted Cape Horn. In this latitude there is abundance of a small species of *Physalis*, of a transparent

azure hue, which were frequently washed on the main-yard by the spray breaking over the vessel.

At last, on the morning of the 7th, a favorable wind rising, we were within forty miles of the entrance to the harbour. and joy and expectation sat on every countenance, all hands endeavoring to make themselves useful in accomplishing this wished-for object. Dr. Scouler and I kept the soundings, and safely passed over the sandbar, where many vessels have been injured and others lost. We happily gained the much-desired harbor, and anchored in Baker's Bay, on the north-side of the Columbia, at 4 o'clock in the afternoon. Several cannon shots were immediately fired to announce our arrival to the establishment seven miles up the river, but they were not answered. Thus terminated my long and tedious voyage of eight months and fourteen days. The joy of viewing land, and the hope of being able, in a few days, to range through this long-desired spot, and to resume my wonted pursuits and enjoyments, may be easily imagined. We spent the evening in great mirth, and went to rest early at night, happy to be able to sleep without the noise and motion and other disagreeable attendants of a long sea voyage. I think I may truly reckon this as among the happiest moments of my life.

The following day, April 8, was so rainy and cold that we could not leave the ship, but the next morning Dr. Scouler and I went ashore on Cape Disappointment. On stepping out of the boat we picked up *Rubus Spectabilis* (*B. Reg. t.* 1444) and *Gaultheria Shallon*, with several other plants which had only been known to us in the Herbaria, or by name. Many species of *Vaccinium*, not however yet in flower, with *Tiarella* and *Heuchera*, both in full blossom, grew in the woods. In a few hours we returned to the ship, amply gratified. We found that during our absence a canoe with one Canadian and several Indians had been sent from the fort, bringing fresh provisions, potatoes and butter. The latter also offered game, dried salmon and fresh sturgeon, with dried roots and preserved berries of several kinds, for barter, and as they put many questions to us, by the aid of

a little English and many signs, we viewed them with much curiosity and interest. The natives showed themselves sufficiently shrewd in bargaining for the trinkets, molasses, and bread which we gave them in exchange for their provisions. The practice of compressing the forehead, of perforating the septum of the nose and ears, and inserting shells, bits of copper, beads, or in fact any kind of hardware, gives a stranger a curious idea of the singular habits of these people.

On Monday, the 11th, the ship went up the river, and anchored on the side opposite the establishment at Point Ellis, and the following day we were received by Mr. McKenzie, the person then in charge, who informed us they were about to abandon the present place for a more commodious situation ninety miles up the river, on the north side. Also, that the chief factor, John McLoughlin, Esq., was there, but would be down as soon as he received intelligence of the ship's arrival. From Mr. McKenzie we experienced great attention, and though we did not quit the vessel till the 19th, I was daily on shore. With respect to the appearance of the country, my expectations were fully realized. in its fertility and variety of aspect and of soil. The greater part, as far as the eye could reach, was covered with *Pines* of various species. The Atlantic side of this great continent much exceeds the western coast in the variety of its kinds of forest trees; there are no *Beeches*, *Magnolias*, *Gleditschias*, or *Juglans*, and only one kind of *Oak* and of *Ash* on the Pacific side.

Cape Disappointment, on the southern [northern] bank of the river at the ocean, is a remarkable promontory of rock, forming a good sea-mark. elevated about 700 feet above the level of the sea, and covered with *Pines* and brushwood. The country to the northward, near the ocean, is hilly. The opposite point, called Point Round, or Point Adams of Lewis and Clark, is low, and in many places swampy; a ridge of low hills runs for about forty miles southward, skirting the sea, as far as Cape Lookout [Tillamook Head], so named by Vancouver. The breadth of the Columbia is

about five miles at its mouth, not including Baker's Bay, which has a deep bend; the current is very rapid, and produces great agitation when the wind blows from the westward, dashing the water over the sand-bar quite across the river, so that no channel can be perceived, and it becomes impossible for a vessel to go out or in with safety.

My paper for preserving plants being all in the hold of the ship, I could do but little in collecting, though we continued our excursions every day, when the weather permitted, and were frequently meeting with objects which caused us much gratification. Nothing gave me, I think, greater pleasure, than to find *Hookeria lucens* in abundance in the damp, shady forests, growing with a plant whose name also reminded me of another valued friend, the *Menziesia ferruginea*. All my paper and trunks were sent ashore on the 16th, and on the 19th I embarked in a small boat with Mr. John McLoughlin, the chief factor, who received me with demonstrations of the most kindly feeling, and showed me every civility which it was in his power to bestow.

The following night, at 10 P. M., we arrived at Fort Vancouver, ninety miles from the sea, the spot where the officers of Captain Vancouver completed their survey of the river in 1792. The scenery round this place is sublimely grand—lofty, well-wooded hills, mountains covered with perpetual snow, extensive natural meadows, and plains of deep, fertile, alluvial deposit, covered with a rich sward of grass, and a profusion of flowering plants. The most remarkable mountains are Mounts Hood and Jefferson, of Vancouver, which are at all seasons covered with snow as low down as the summit of the hills by which they are surrounded. From this period to the 10th of May, my labour in the neighborhood of this place was well rewarded by *Ribes sanguineum* (Bot. Reg. t. 1349. Bot. Mag. t. 3335), (a lovely shrub), which grows abundantly on the rocky shores of the Columbia and its tributary streams, producing a great profusion of flowers and but little fruit, except in the shady woods, where the blossoms are comparatively few; I also found

*Berberis Aquifolium* (Bot. Reg. t. 1425), *B. glumacea* (EjUSD. t. 1426. De Cand. *B. nervosa* of Pursh), *Acer macrophyllum* (Hook, Fl. Bor. Am. v. 1. t. 38), and *Scilla esculenta* (Bot. Mag. t. 2774), the *Quamash* of the natives, who prepare its roots in the following manner. A round hole is scraped in the ground, in which are placed a number of stones and a fire is kept burning on them till they are red hot, when it is removed and replaced by some brushwood and straw, on which the roots are laid (covered with leaves, moss, or straw, with a layer of earth), and they remain there until they are baked or roasted, a process which occupies a few hours, after which they are taken out and hung up to dry. Sometimes the natives bruise these roots or pound them into cakes and round lumps, which they lay upon the shelves in their lodges for winter use. When cooked they have a sweetish and by no means unpleasant taste, and a very palatable beverage might probably be prepared from them. Lewis and Clark observe that they are apt to produce bowel complaint if eaten in large quantities, as they certainly do flatulence. The plant abounds in all alluvial plains, on the margins of woods and banks of rivers. *Pyrola aphylla* (Hook Fl. Bor. Am. t. 137), *Caprifolium occidentale* (B. Reg. t. 1457), and a multitude of other plants, delighted me highly; nor can I pass over the beauty, I might say the grandeur, of *Lupinus polyphyllus* Bot. Reg. t. 1096, and *var. albiflorus*, t. 1377), covering immense tracts of low land on the banks of streams, with here and there a white-flowered variety, and growing to a height of six or eight feet, wherever the ground was partially overflowed. The *Gaultheria Shallon* (Bot. Mag. t. 2843, Bot. Reg. t. 1372), is called by the natives *Salal* and not *Shallon*, as stated by Pursh, whose figure and description are, however, good; it grows abundantly in the cool pine forests, most luxuriantly in the shady places near the ocean. I have seen it as far as forty miles above the Grand Rapids of the Columbia River, but it is not so vigorous as when found nearer the sea. The fruit is abundant and very good, so that I hope it will ere

long find a place in the fruit garden as well as the ornamental border. I also gathered, among other curious plants, a noble species of *Arbutus*, *A. procera* (Bot. Reg. t. 1753). We had abundance of excellent salmon, brought to us by the native tribes, which they sold very cheap. I returned to Fort Vancouver at the end of the month, having increased my collection of plants by seventy-five species, and also killed four quadrupeds and a few birds.

Till the 20th of June, I employed myself in the vicinity of Fort Vancouver in procuring seeds of early flowering plants, and collecting various objects of natural history, when I availed myself of the departure of the boats for the inland establishments, to accompany them as far as seemed advisable. Starting from the mouth of the river at 8 o'clock in the morning, in a small boat with one Canadian and five Indians, we proceeded about forty miles that day. The current was strong, owing to the melting of the snow on the mountains, and when we came to open parts of the banks, unobstructed by timber or rocks, I botanized as we went along. We supped on roasted sturgeon and bread, with a basin of tea, and slept in the boat which we dragged on shore. The next day we passed the Grand Rapids, forty-six miles above the Fort; the scenery at this place is wild and romantic, with high mountains on each side, clothed with timber of immense size. The Rapid is formed by the river passing through a narrow channel, 170 yards wide; the channel is rocky, obstructed by large stones and small islands, with a fall of 147 feet, the whole rapid being about two miles long. In many places the banks rise perpendicular to a height of several hundred feet, over which are some fine water falls; the rocks are chiefly secondary, sandstone, limestone, and blue granite. Whole petrified trees are visible close to the water's edge, both of *Pine* and *Acer Macrophyllum*.

This being the season of salmon fishing, I had opportunities of seeing prodigious numbers taken simply with a small hoop or a scoop-net, fastened to the end of a pole. The fish are of excellent quality and average about fifteen pounds

in weight. In the still parts of the water, immense quantities are caught in these nets, to which are attached spindles formed of the wood of *Thuja plicata*, which is very buoyant and which serve as corks, while small oblong stones answer the purpose of lead. The rope of the net is made from a species of *Salix*, or from the *Thuja*, and the cord of *Apocynum piscatorium* (*A. hypericifolium?*), a gigantic species peculiar to this country, whose fibre affords a great quantity of flax.

The country continues mountainous as far as the lower branch of the Multnomak River, the Belle Vue Point of Vancouver, about seventy miles from the ocean, where the banks again become low, and the background rises gradually. On the south, towards the head water of the Multnomak, we saw a ridge of snowy mountains, and one which was very conspicuous and of a conical form in the distance, far exceeding the others in height. This, I have no doubt, is Mount Jefferson, of Lewis and Clark. Another was equally striking due east, and one due north; the former, Mount Hood, and the latter Mount Saint Helens, of Vancouver; their height must be very great, at least 10,000 or 12,000 feet, and I am informed that two-thirds are continually wrapped in snow, of which there is hardly any sensible diminution even in summer, immense barriers of ice rendering every attempt to reach the summits quite impracticable. From the Grand Rapid to the Great Falls, seventy miles, the banks are steep, rocky, and in many places rugged; and the hills gradually diminish in elevation, and are thinly covered with stunted timber and shrubs but a few feet high. Here we were no longer fanned by the huge *Pine*, the *Thuja* and *Acer*, nor gratified by observing the perpetual quiver of the beautiful *Populus tremuloides*. Far as the eye can reach there is but a dreary waste of barren soil, thinly covered with scanty herbage. Here, however, I found the beautiful *Clarkia pulchella* (Bot. Mag. t. 2918), *Calochortus macrocarpus* (Bot. Reg. t. 1152), *Lupinus aridus* (Bot. Reg. t. 1242), and *leucophyllus* (Bot. Reg. t. 1124), *Brodiaea grandiflora* (Bot. Mag. t. 2877, Bot. Reg. t. 1183), etc. The present bed of

the river at the falls is 600 feet lower than the former one, and of decomposed granite. I could not at this season go higher than a few miles above the falls, but was amply repaid by *Purshia tridentata*\* (Hook. Fl. Bor. Am. t. 1. t. 58), *Bartonia albicaulis* (Bot. Reg. t. 1446), *Bartonia albicaulis*, B. (Bot. Mag. t. 2894. Bot. Reg. 1174), and several *Pentstemons*,† and seeds of many desirable plants, many of which I secured during this expedition.

Early in the morning of the 19th of July, I descended the river in an Indian canoe for the purpose of prosecuting my researches on the coast, a design which was in a great measure frustrated by the tribe among whom I lived going to war with the nations residing to the northward, in that very direction which I intended to follow. During my stay several persons were killed and some wounded in a quarrel. The principal chief in the village, Cockqua, treated me with the utmost fidelity, and even built me a small cabin in his own lodge, but the immense number of fleas occasioned me to remove to within a few yards of the river; still my friend was so much interested in my safety that he watched himself a whole night, at the time when he expected the war party. In the morning about 300 men in their war garments, danced the war dance, and sang several death songs, which caused in me certainly a most uncomfortable sensation, and the following morning brought us seventeen canoes, carrying nearly 400 men, when after several harangues, it was mutually agreed to suspend hostilities for the present.

A sturgeon was caught by one of my companions which measured twelve feet nine inches from the snout to the tip of the tail, and seven feet round the thickest part, and its weight exceeded 500 pounds. Among the plants which I found on this occasion were *Lupinus littoralis* (Bot. Mag. t.

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\*To this genus the *Cerocarpus* of Humboldt and Kunth is very nearly allied, of which a species was afterwards found by Mr. Douglas in California.—Ed.

†See Bot. Reg. and Bot. Mag. for several of these beautiful genus introduced by Mr. Douglas.—Ed.

2952), *Carex Menziesii*, *Juncus Menziesii* and *globosus*, *Vaccinium ovatum*, *parvifolium* (Hook. Fl. Bor. Am. v. 1. t. 128), and *ovalifolium* (Hook. Fl. Bor. Am. v. 1. t. 127). I also obtained seeds of the beautiful *Spiraea ariaefolia* (Bot. Reg. t. 1367), of *Gaultheria Shallon*, *Ribes sanguinem*, *Berberis*, and other valuable and interesting plants.

Before taking leave of my Indian friends, I purchased several articles of wearing apparel, things used in their domestic economy, etc., for which I paid in trinkets and tobacco. I arrived at Fort Vancouver again on the 5th of August, and employed myself until the 18th in drying the specimens I had collected, and making short journeys in quest of seeds and other plants; my labours being materially retarded by the rainy weather. As there were no houses yet built on this new station, I first occupied a tent which was kindly offered me, and then removed to a lodge of deer skin, which soon, however, became too small for me in consequence of the augmentation of my collections, and where also I found some difficulty in drying my plants and seeds. A hut constructed of the bark of *Thuja occidentalis* was my next habitation, and there I shall probably take up my winter quarters. I have only been in a house three nights since my arrival in Northwest America, and these were the first after my debarkation. On my journeys I occupy a tent wherever it is practicable to carry one; which, however, is not often, so that a canoe turned upside down is my occasional shelter; but more frequently I lie under the boughs of a pine tree, without anything further. In England, people shiver at the idea of sleeping with a window open; here each person takes his blanket and stretches himself, with all possible complacency on the sand, or under a bush, as may happen, just as if he were going to bed. I must confess that although I always stood this bivouacking remarkably well, and experienced no bad effects from it, I at first regarded it with a sort of dread, but now habit has rendered the practice so comfortable to me, that I look upon anything more as mere superfluity.

But to return from this digression: I again set off on the 19th for the purpose of ascending the River Multnomak, one of the southern tributaries of the Columbia. This is a very fine stream, with remarkably fertile banks; thirty-six miles above the junction with the Columbia are falls of forty-three feet perpendicular height, over which the whole breadth of the river is precipitated, forming one unbroken sheet at this season of the year, but in spring and autumn divided into three channels. There is but little current thus far, as the stream is gorged back by the waters of the Columbia. The portage over the falls is no small undertaking. I killed several of the *Cervus Leucurus*, or long white-tailed deer, as well as some of the black-tailed kind, *C. macrotis*. Two days farther took me to the village of the Calapoori Indians, a peaceful, well-disposed people, twenty-four miles above the falls, and where I formed my camp for several days. A hunting party started from hence, proceeding westerly over the ridge of mountains. Near my encampment was a saline spring, to which the deer frequently resorted, as well as the beautiful ringed species of *Columba*, whose elegant movements when picking up and licking the saline particles that were found round the edge afforded me great amusement. In the extensive plains, bounded on the west by the mountainous woody part of the coast, and on the east by high mountains, and as also on the banks of the River Sandiam, one of the rapid branches of the Multnomak, grows abundance of the *Escholtzia Californica* (Bot. Reg. t. 1168. Bot. Mag. t. 2287), also *Iris tenax* (Bot. Reg. t. 1218, Bot. Mag. t. 3343), *Nicotiana multivalvis* (Bot. Reg. t. 1067), two new species of *Trichostemma*, and many other delightful plants. I procured some curious kinds of *Myoxus*, *Mus*, *Arctomys*, a new species of *Canis*, of singular habits, and a genus of animals which had been hitherto undescribed (probably *Geomys Douglasii* of Richardson's *Fauna Boreali-Americana*). In the tobacco pouches of the natives I found the seeds of a remarkably large Pine, which they eat as nuts, and from whom I learned that it grows on the moun-

tains to the south; no time was lost in ascertaining the existence of this truly grand tree, which I named *Pinus Lambertiana*; but no perfect seeds could I find, and I returned to my rendezvous at Fort Vancouver, richly fraught with the treasure I had collected.

A few days were devoted to arranging my last collection, and drying the seeds I had gathered, without loss of time, on the 5th of September, having engaged a chief as my guide, and accompanied by one Canadian, I started on a journey to the Grand Rapids. Two days were consumed in ascending the Columbia, though I was favoured with a fair wind; I pitched my camp close to Chumtalia's (my guide) house, taking the precaution of having the ground well drenched with water, to prevent the annoyance of fleas, from which, however, I did not wholly escape. On the Saturday morning, as soon as Chumtalia learned that it was my intention to visit the summit of the mountains on the north side of the river, he forthwith fell sick, and presently framed an excuse for not accompanying me on the expedition. He, however, sent a younger brother to guide me, together with two young men from the village, and I left the Canadian at the tent, to take care of my books, etc., charging Chumtalia to supply him with salmon, and to see that no harm should befall him. To encourage my guides, I was under the necessity of giving them the whole of the provisions the first day, except four small biscuits and a little tea and sugar; at our first encampment, about two-thirds up the mountain, we left our blankets, intending, after having reached the summit, to return thither and sleep. But our path being dreadfully fatiguing, climbing over the shelving detached rocks and fallen timber, the night overtook us ere we had reached the top. I killed a half-grown eagle, on which we fared, and with a little tea, made in an open kettle, and drunk out of vessels formed of bark, we passed a tolerable night, without any bedding. Previous to lying down, I used the precaution of drying all my clothes, which were drenched with perspiration from the violent exercise I had taken. The following day, in the dusk of

evening, I regained my camp, faint and weak, but much pleased to find that all had gone well during my absence. My feet suffered so severely from this three days' journey that I was totally unable to prosecute my fatiguing researches without taking some rest, and therefore amused myself with fishing and shooting seals (*Phoca vitellina*), which were sporting in vast numbers in the rapid where the salmon are particularly abundant. Two days after I succeeded in persuading Chumtalia to attend me to the mountains on the south side of the river, which he willingly did. The ascent was easier than the former one, and I reached the top after a labourious walk of fifteen hours, having had the good fortune to find a new species of Pine, *Pinus Nobilis* and *P. amabilis*, the grandest trees of the tribe, *Helonias tenax*, with a new *Rhododendron* and a second *Pterispora* (?), also some interesting individuals of the genus *Ribes*, rewarded my labour; on the rocky part of the mountain, *Arbutus tomentosa* (Bot. Mag. t. 3320. Bot. Reg. t. 1791), was not rare, and I procured seeds of several species of *Pentstemon*. On the morning of the 13th I re-embarked in my canoe and soon after midday reached Fort Vancouver, so different is the length of time occupied in ascending and descending the river. There I had the pleasure to find Dr. Scouler returned from his northern voyage, and so delighted was I to hear of his success, and he to be informed of my movements, that we sat and talked over our respective journeys, till the sun, rising over the noble stream, apprised us that a new day had begun, and sent us off to seek a few hours' repose. The rest of this month was devoted to packing my collections, consisting of sixteen large bundles of dried plants from America, and eight gathered in other places, a large chest of seeds, one of birds and quadrupeds, and another containing various articles of dress, etc. A portion of each kind of the seeds was reserved in order to be sent across the continent in the ensuing spring.

An originally slight wound which I had received, now becoming troublesome, compelled me to desist from my labours for some weeks, by which I lost a valuable portion of time,

at an important season of the year; from the 23rd of October to the 15th of November, was thus passed.\*

In consequence of receiving this wound on my left knee, by falling on a rusty nail, when employed in packing the last of my boxes, I was unfortunately prevented from carrying my collection to the ship myself, and accordingly wrote a note to Captain Hanwell, requesting he would have the goodness to place them in an airy situation, particularly the seeds, and that, if possible, their place of deposit should be above the level of the water. To this note I received a very kind answer, assuring me that my directions should be attended to. On the 7th my leg became violently inflamed, and a large abcess formed on the knee joint, which did not suppurate until the 16th. This unfortunate circumstance, occurring at the period when I wanted to be employed in gathering seeds, gave me much uneasiness; but learning, on the 22nd of October, that the ship had been detained by contrary winds, and finding myself better, and being also very desirous of losing as little time as possible at this important season, I left Fort Vancouver in a small canoe, with four Indians, for the purpose of visiting my old shipmates, on my way to Whitby's Harbour of Vancouver, or the mouth of the Cheeheelie River, in latitude 48 degrees north, near which place grow some plants of which I had previously obtained but imperfect or no specimens, or of which I wished to collect the seeds. Among them was *Helonias tenax*, a very desirable plant for cultivation. I camped at the junction of the Multnomak River with the Columbia, after having made a distance of twenty miles, when a strong westerly wind setting in from the sea obliged me to have my canoe examined, and new-gummed before starting again; I had not proceeded many miles when it struck against the stump of a tree, which split it from one end to the other, and compelled me to paddle hastily to shore with the water rushing in upon me. During the time the Indians were employed in repairing the damage,

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\*As the period included within these dates covers the time during which Douglas made the arduous trip to Grays Harbor the transcriber must have been confused.—ED. QUARTERLY.

I turned cook, made a basin of tea for myself and cooked some salmon for my companions, after which we proceeded on our route. About 8 o'clock the same evening we put ashore at the village of Oak Point, to procure some food, when an Indian handed me a letter from Dr. Scouler, the surgeon of the ship, in which my friend informed me that they would not probably leave the bay for some days, and as the vessel had been seen there that morning, I was desirous of writing to Mr. Sabine at the latest possible date. After obtaining a few dried salmon, and a wild goose, we proceeded four miles farther down the river till midnight, when we stopped to take a little supper, hoping before daybreak the next morning to reach the sea, from whence we were still about forty-five miles distant. At 4 o'clock in the morning a strong breeze set in from the sea, which produced a very angry swell on the river, and obliged me to coast along its shore (a measure indeed almost necessary under any state of wind, because my canoe was in so frail a condition) and afterwards to haul our bark across a narrow neck of land at Tongue Point, when unfortunately a sudden change of wind enabling the ship in the bay to weigh her anchor we missed her by just one single hour! This was a severe disappointment, as besides not seeing Dr. Scouler, I had my letters written all ready to hand on board.

Leaving my canoe men to lie down and sleep, I took my gun and knapsack, and proceeded along the bay in search of seeds. At dark I returned to the lodge of *Madsue*, or "*Thunder*," one of the Chenook chiefs, where I found his brother, *Tha-a-mux*, a chief of the Cheeheelie River, on Whitby's Harbour, and as he was then going home I acceded to his request to accompany me. The following morning *Com Comly*, the chief of all the Chenooks on the north side of the river, sent his canoe with twelve Indians to ferry me across the Columbia to Baker's Bay, on the south [north] side, which they performed with great skill, though a violent storm overtook us in the middle of the channel, by which we lost a few pounds of flour and a little tea, all the provisions we had ex-

cept some ounces of chocolate, which I carried in my pocket. This canoe was so much larger and more commodious than my own, that I had succeeded in bargaining for the loan of it, and I attribute my preservation to the strength of the boat and dexterity of the Indians; by which, though the sea repeatedly broke over us, we reached the shore in perfect safety, and encamped at sunset near Knight's River, in Baker's Bay. In the evening I gave the two chiefs a dram of well-watered rum, which pernicious liquor they will, generally speaking, make any sacrifice to obtain. I found, however, an exception in my new guide; on my enquiring the reason of his temperance, he informed me that some years ago he used to get drunk, and become very quarrelsome; so much so, that the young men of the village had to take and bind him hand and foot, which he looks upon as a great disgrace, and will taste spirits no more. In lieu of drinking, however, I found him an expensive companion, from his addiction to tobacco. So greedily would he seize the pipe and inhale every particle of smoke, that regularly five or six times a day he would fall down in a state of stupefaction. In self-defense I was obliged to smoke, when I found that my mode of using the Indian weed diverted my companion as much as his had me. "Oh," cried he, "why do you throw away the food? (smoke). See, I take it in my belly."

The following day, during the whole of which the rain fell in torrents, we made a small portage of four miles over Cape Disappointment, the north point of the Columbia, to a small rivulet that falls into the ocean, twelve miles to the northward. I found the labour of dragging my canoe occasionally over the rocks, stumps, and gulleys that intercepted our way extremely trying, especially as my knee became more and more stiff and troublesome from the damp and cold. On reaching the bay, I proceeded along it for a few miles, when the thick fog obliged me to encamp under a shelving rock, overshadowed with large pines, a little above tide mark. After a comfortless night I resumed my journey at daylight, and having been disappointed of procuring any salmon at

the village which we passed, because it was abandoned, we pushed on with as much speed as possible to Cape Foulweather,\* which we gained, after proceeding forty miles along the coast. The rain continuing to fall heavily the next day, we sent the canoe back to the Columbia from this place, it being also impossible, with so few hands, to carry it over a portage of sixteen miles. The Indians, too, were solicitous to leave me, when they knew that all the provisions were exhausted. The wind increased about midnight, two or three hours after they had departed, to a perfect hurricane, accompanied with sleet and hail, which obliged us twice to shift our camp, as the sea rose unusually high and almost reached us, and which also rendered me very anxious about the safety of the Indians, who, as I afterward learned, were so fortunate as to gain the shelter of a creek until the storm abated. We had no protection, save what was afforded by our wet blankets and a few pine branches, and were destitute of provisions. A few berries of *Arbutus Uva-Ursi* were all that could be got at this place, and the wind and heavy rain almost rendered it impossible to keep up any fire. All the wild fowl had fled to the more sheltered spots; not a bird of any kind could be seen. Long ere daylight we were ready to leave Cape Foulweather;† well convinced that it deserved its name, as there appeared no likelihood of procuring food, we walked along the sandy beach to endeavor to reach Whitby Harbour,‡ where my guide expected to meet a fishing party. On arriving there, when we found the village deserted, I can hardly describe the state I was in. While my guide and the Indians were collecting some drift-wood, I made a small booth of pine branches, straw and old mats. My blanket having been drenched all day, and the heavy rain affording no oppor-

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[\*The point on the north side of the entrance to Willapa Harbor. Douglas used Vancouver's nomenclature which did not always stick.—ED. QUARTERLY.]

†On the map belonging to the *Flora Boreali Americana*, and drawn up under Mr. Douglas's inspection, probably by error, Cape Foulweather is represented as on the south side of the Columbia and Whitby Harbor on the north. [The name "Foulweather" has been retained to designate a headland about one hundred miles south of the mouth of the Columbia.—ED. QUARTERLY.]

[‡Gray's Harbor.—ED. QUARTERLY.]

tunity of drying it, I deemed it imprudent to lie down to sleep, and accordingly spent the night sitting over the fire. The following day found me so broken down with fatigue and starvation, and my knee so much worse, that I could not stir out. We fared most scantily on the roots of *Sagittaria sagittifolia* and *Lupinus littoralis*, called in the Chenook language *Somuchtan*, till, crawling out a few steps with my gun, I providentially saw some wild birds, and killed five ducks at one shot. These were soon cooked, though one of the Indians ate his share raw. To save time in plucking the fowl, I singed off the feathers, and, with a basin of tea, made a good supper on one of them. I had certainly been very hungry, yet, strange to say, as soon as I saw the birds fall, my appetite fled, and I could hardly persuade myself I had been in such want.

Our fire having attracted the attention of my guide's friends living on the other side of the bay, who were looking out for him, they sent a canoe. Arriving at midnight, I was asleep, and did not know of the fortunate circumstance till he woke me in the morning, for he had not allowed them to make any noise to disturb me, since I had taken little or no rest during three preceding nights. As we were crossing the bay together I killed two gulls, one large and white, with a bluish hue on the wings, which were tipped with black, the other of equal size, but all mottled with gray; also a species of *Colymbus*; but I had no opportunity of preserving them. I reached my guide's house at dusk, and remained there several days, partaking of whatever they could spare, and treated with all the kindness and hospitality which Indian courtesy could suggest. During this time I procured a little seed of *Helonias tenax*, though not so much as I could wish, owing to the lateness of the season, with abundance of the seeds of a splendid *Carex*, and a *Lupine* (*L. littoralis*). The roots of the latter plant are collected by the natives, and roasted on the embers, and they are the *Liquorice* alluded to by Lewis and Clark; they contain much farinaceous sub-

stance, and are a very nutritive food; as mentioned above, the natives call them *Somuchtan*.

On the 7th of November I proceeded up the River Cheeheelie, with my guide, in a canoe, stopping at such places as presented anything new. On the 11th I had attained a distance of sixty miles from the ocean, when, discouraged by the deluges of rain which fell, and finding that my canoe was too large to proceed further, owing to the cascades and occasional shallowness of the water, I discontinued my voyage, which was intended to extend to the source of the river, and dismissed my guide, after making him such presents as I deemed were well deserved by the zeal and kindness I had experienced at his hands. Before leaving me, however, this man, called "The Beard" by his tribe, entreated me to shave him, as he makes some pretensions to civilization, and imitates English manners with considerable nicety. I complied with his request, and invited him to come and see me at the New Year at the fort, when I would give him a smoke and a dram, and shave him again. He asked me farther, "to let all King George's chiefs know about him when I spoke to them on paper." This river is a large stream nearly as wide as the Thames, very rapid, interrupted in many parts with cascades and having steep and rocky banks covered with woods, like those found on the Columbia.

At the village where I stopped I bargained with an Indian to carry my luggage on his horse to the Cowalidsk River, forty miles distant, a considerable stream, which empties itself into the Columbia. I had some difficulty in arranging with the fellow, and found him the most mercenary rascal I ever yet met. Having no alternative, I had to give him twenty shots of ammunition, two feet of tobacco, a few flints, and a little vermillion.

This distance, though not more than forty miles, took two days; the low places in the plain were so many lakes, the rivulets had overflowed their banks, and the difficulty of ascending and descending the numerous woody hills was greatly increased by these causes. It rained both days; we

had consumed all the berries I had collected, and Mr. Mackenzie, who accompanied me, suffered severely from eating the roots of a species of *Narthecium*. Fortunately we found at the Cowalidsk a small boat which Schachanaway, the chief had borrowed from the establishment a few days before; and he also gave us some roots, dried salmon, and a goose (*Anas Canadensis*.) The following day we descended the river to the Columbia, and on the 15th of November landed at Fort Vancouver. Seeds of *Helonias tenax*, *Rubus spectabilis* (Bot. Reg. t. 1424), were the only things I saved in this unfortunate journey.

My return up the Columbia was effected by means of my cloak and blanket, which I used as sails. It was midnight of the 15th when I reached Fort Vancouver, after an absence of twenty-five days, during which I experienced more fatigue and gleaned less than in any trip I ever made in this country.

From this period, the middle of November, to the end of December, my infirm state of health, and the prevalence of the rainy season entirely precluded any thought of Botany. At midday of the 18th, the annual express, consisting of two boats and forty men, arrived at Fort Vancouver, from Hudson's Bay, whence they had started on the 21st of July. At a distance of several miles we had descried them, rapidly descending the stream, and as in this remote country, it is only once a year that the post, if I may so call it, arrives from England, we eagerly hurried to welcome our guests, each congratulating himself on the prospect of receiving letters from home. I, for one, was heavily disappointed; to my great regret, the party informed me that there was no parcel, letter, nor article of any kind for me, and though this was accounted for by the circumstance that they had quitted Hudson's Bay before the arrival of the ship which sailed for that port from England in the month of May, still it was tantalizing to reflect that whatever might have been sent to me by that vessel, must now lie on the other side of the great Continent of America until November of next year. Mr. McLeod, the gentleman in charge of this expedition, informed me that he had met

Captain Franklin's party on Cumberland Lake, on their way to Bear Lake, their winter residence. I learned also that a Mr. Drummond, whom, from the description, I could not but hope was my old botanical acquaintance, the nurseryman at Forfar, was attached, as Naturalist, to the expedition, and that he had accompanied Mr. McLeod so far as the Rocky Mountains, where he meant to spend the winter season near Peace River and Smoking River. Mr. McLeod, whom I find to be a very agreeable person, informs me that he has passed the last five years on Mackenzie's River, of the country lying near which he possesses more knowledge than any other person. The natives, whose language he speaks fluently, assure him that there is a river, running parallel with Mackenzie's River, to the west, and equaling it in size, which falls into the sea near Icy Cape. He had assembled the Indians with a view to making a journey in that direction, when orders arrived which obliged him to start for Hudson's Bay. In this gentleman may be seen what perseverance can effect, as he had visited the Polar Sea, and the Atlantic and Pacific Oceans in the short space of eleven months. The sea, to the westward of Mackenzie's River, is said to be open after July, so that little difficulty or exertion would be found in going to Icy Cape by land.

During the brief intervals of good weather I crawled out whenever my wounded leg enabled me to move, and taking my gun collected some birds, or went to the woods in search of mosses and other cryptogamic plants. Till the 15th of December there was hardly any frost, and the weather, when dry, was very pleasant, though the cold was considerable during nights. But on the 24th of that month, the rain fell in such torrents that my little hut of *Thuja* bark became untenable, the water standing fourteen inches deep on the floor; Mr. McLoughlin kindly invited me to take up my quarters with him in his half-finished house, and thither I removed all my little articles on the morning of Christmas Day. After morning service was over, the gentlemen of the

fort took an airing on horseback, in which my troublesome knee, much to my vexation, prevented my joining.

January 1, 1826: The commencement of a new year, in such a far-removed corner of the globe, where I am almost cut off from all civilized society, suggests many reflections. On New Year's Day, 1824, I was on the Atlantic, returning to my native land from North America; on the same day, this time twelvemonth, I was scudding over the Pacific, between the Island of Juan Fernandez and the Gallipagos; and as to where I may be ere another year revolves, is known only to the all-wise Disposer of events.

#### ACCOUNT OF THE ZOOLOGY OF THE COLUMBIA.

So few events occurred between this date and the 1st of March that my journal is not worth transcribing. I may, however, mention some birds of this country that came under my notice; and first, the *Silver-headed Eagle* (*Aquila leucocephala* of Richardson and Swainson?), a grand creature, abundant wherever there are rivers containing fish. These birds perch on dead trees and stumps overhanging the water, and are invariably found near cascades and falls. They are wary and difficult to be killed, although other species of eagles do sometimes overcome them. The voice is a shrill whistle. They build their nests in large trees, not confining themselves to dead trunks, and appear always to select the most conspicuous situations, such as the tops of steep rocks, points and necks of land, where they may be almost certainly looked for. Two, three, and four young ones are hatched at a time, which keep the nest, and continue on the tree much longer than most birds, seldom quitting the vicinity of the place where they are reared. The color of the first plumage is a brownish-black, which in the first spring assumes a mottled grey, lightest on the head and tail; the second year these parts become perfectly white, and the body black. I killed one of these birds flying, last July, during an excursion of twelve days, which I had made principally for the sake of obtaining the roots or seeds of a *Cyperus* mentioned by Pursh

in his preface. The bird, a fine large male, was perched on a stump close to the village of Cockqua, one of the principal chiefs of the Chenook nation. This tribe was at war with the Clatsops and some other Indians, as mentioned before, and many were the feats of strength and dexterity which they performed, in order to show their superior power, among which were hitting a mark with bow and arrows, and a gun. One individual passed the arrows through a small hoop of grass, six inches in diameter, thrown up in the air by another person, and then with his rifle struck a mark 110 yards distant, explaining that none of King George's chiefs could do the like, any more than chaunt the death song, and dance war dances with him. On this bravado, deeming it a good opportunity to show myself a fair marksman, the poor Silver-Headed Eagle was made to pay for it. I lifted my gun, which was charged with swan shot, walked to within forty-five yards of the bird, and throwing a stone to raise him, brought him down when flying. This had the desired effect; many of the natives, who never think of the possibility of shooting an object in motion, laid their hands on their mouths in token of fear, a common gesture with them. The fellow, however, still showing himself inclined to maintain his superiority, gave me a shot at his hat, which he threw up himself, when my shot carried away all the crown, leaving nothing but the brim. My fame was hereupon sounded through the whole country, and a high value attached to my gun. Ever since I have found it of the utmost importance to bring down a bird flying when I go near any of their lodges, at the same time taking care to make it appear as a little matter, not done on purpose to be observed. With regard to the hat in question, I may mention that it was woven of the roots of *Helonias tenax*, which the Indians of the Columbia call *Quip-Quip*, and on my observing the tissue with attention, Cockqua promised that his little girl, 12 years of age, should make me three or four after the European shape, giving me at the same time his own hat, and a large collection of baskets, cups, and pouches of the same material, for which I paid in tobacco,

knives, nails, and gun-flints. The roots of *Cyperus* and *Thuja* are also used for the same purpose. Cockqua kept his promise, and after three months brought me the hats, one on which had initials woven in with a dark-stained *Fucus*. I gave him for these and for ten pieces of wood, made of *Spiraea Capitata*, each tipped with a beaver's tooth, and used in playing one of their games, one blanket, value 7 shillings, and some beads, rings, and needles, as a present to the little girl who wrought the hats. When returning last summer from the Grand Rapids, I saw one of these *Silver-headed Eagles* take a small sturgeon out of the water, and as he was soaring over my head, I lifted my gun and brought him down. The claws of the bird were so firmly clenched through the cartilaginous substance of the fish's back, that he would not let go till I introduced a needle into the vertebrae of his neck. The sturgeon measured fifteen inches long, and weighed four pounds.

The *large Brown Eagle* is less plentiful than most species of its tribe, and not so shy. It is also less ferocious than the *Silver-headed Eagle*, of which it stands in great fear. I was able to kill but one, and an examination of its stomach, which was full of small birds, seemed to show that it does not live on fish.

The *Small Eagle* appears to be rare, as I never saw more than one pair, of which I killed one. Its flight is very quick, and though inferior in size and strength to the other Eagles of this country, it boldly pursues them all. I can not say what is the nature of its food. The legs and feet are of a light and bright blue.

The hunters inform me that the *Calumet Eagle* (*Aquila Chrysaetos*, Richardson and Swainson), is found two degrees south of the Columbia, in the winter season, and I saw two specimens which had been killed there.

A species of *Buzzard* or *Vulture* (*Sarcoramphos Californianus* of Vigors) is the largest bird seen here, except the Wild Swan. I killed only one of these interesting birds, but the buckshot which went through its head spoiled the speci-

men for preservation, which I exceedingly regret, as I am sure the species is yet undescribed. I have since fired at many of them with every kind of smaller shot, but without effect. Seldom more than one or two of these Buzzards are seen together; but when they can find the carcass of any dead animal, they gorge so gluttonously that it is easy to knock them down with a stick. I shall shortly try to take them with a baited steel trap. The color of this species is similar to the Canadian Buzzard which I sent home, the beak and legs bright yellow. Its wing-feathers are highly prized by the Canadian voyagers for making the stems of their tobacco pipes.

Of the *Hawk* tribe I have seen but four species, and was able to preserve only two of these. One is pure white, and about the size of a sparrow-hawk, a very active bird, and in constant pursuit of all the other sorts, which invariably shun its society.

The *Magpie*, so common with us, and abundant also in the upper part of the country at all seasons, is very rare near the coast; there seems to be no specific difference between it and the bird of Europe, except that this is larger, and the feathers in the tail of the male are of a brighter and more azure purple. The American Magpies have the same trick as ours of annoying horses which have any sore about them. I preserved a pair of them.

The *Wood Partridge* is not a rare bird, although by no means so abundant as many of the tribe on the other side of the continent. These birds frequent high gravelly soils on the outskirts of woods, among hazel bushes and other brushwood; but are so shy that the breaking of a twig is sufficient to raise them, as they generally harbor in the low thickets, it is only by a chance shot on the wing that they can be secured. I preserved two pairs of this fine species, but had the misfortune to lose one of the males, which could not afterwards be replaced, by the depredations of a rascally rat, who mutilated it so much as to render the specimen unfit for sending home. On the Multnomak River there is a species of

Partridge, very diminutive in size, not so large as an English Thrush, with a long azure crest, and head and neck of the same hue, the rest of the bird being an uniform pea-grey. I have not seen it myself, but have provided one of the hunters with shot to procure it for me.

In the upper country are two or three kinds of *Grouse*; one a very large bright grey bird, as large as the smaller size of Turkeys, is plentiful and easily procured; another, about the size of a hen, of a blackish color, is also abundant; it cackles exactly like the domestic fowl, and never flies, but runs along the ground.

The *Large Grouse* I have not seen alive, but often observed its tail-feathers and part of the skin, decorating the war-caps of the Indians from the interior.

A species very distinct from the *Cuculus cristatus* of Wilson, is the *Small Blue Jay* (*Garrulus Stelleri* ? Vieillot); indeed I do not remember to have read any description at all according with it. Unlike the common Jay of our country, which is very shy, and in autumn is seen in large flocks, but never near houses, the Jay of the Columbia is very tame, and visits the dung-hills of the Indian villages, like an English robin, sometimes thirty or forty of the birds coming together. It is of a darker blue than the European kind, and has a black crest. Three of them are preserved.

The *Large Horned Owl* seems not very abundant; I never saw more than twelve or fourteen. One I killed by the light of the moon, having watched for it during several successive evenings; it was not, however, the species I was in quest of, which is much larger than the Snowy Owl, and of a yellowish brown color.

There are two species of *Crow*, one large and the other small; the lesser kind is shy and not so abundant, being only seen on the banks of rivers and near old encampments, where it feeds upon carrion. This bird is in my collection; it was killed in February.

In the *Wild Fowl* there appears little difference from what generally inhabit the wild districts of America. The com-

mon *Canadian Wild Goose* (*Anas Canadensis* ?), with the *Grey* or *Calling Goose*, and the *Small White Goose*, are abundant on all the lakes, marshes, and low grounds, as well as on the sand banks in the Columbia. They migrate to the northward in April, and return in October. The male of the Grey Goose is a handsome mottled bird. A pair of each of these Geese is in my collection.

There are three species, or else distinct varieties of the *Swan*. First, the *Common Swan*, then a smaller bird of the same color; and thirdly, another, equal in size to the first, bluish grey on the back, neck, and head, and white on the belly; it is probably specifically distinct, as the color is preserved in all stages of its growth, and it is not so common as the rest. All these frequent like places as the Geese, and migrate at the same time. To my regret, I was only able to obtain one specimen, a female of the last species.

Of the ten or twelve species of *Ducks* found on the Columbia, I could obtain but three.

My desire of preserving animals and birds was often frustrated by the heavy rains that fell at this season. Among the kinds of the latter which chiefly deserve attention are, *Tetrao Sabini* and *Richardsoni*, *Sarcocamphos Californica*, *Corvus Stelleri*, and some species of the genus *Anas*. There are several kinds of *Cervus*, *Canis*, *Mus*, and *Myoxus*, though the variety of quadrupeds is by no means so great in the northwest as in many parts of America.

The Elk (*Cervus Alces*), which the hunters say agrees precisely with the *Biche* of the other side of this great continent, is found in all the woody country, and particularly abundant near the coast. There are two other species of *Deer*—one is light grey, white on the belly and inside the legs, with a very long tail, a foot to fifteen inches long. It is called by the hunters *le Chevreuil*, or *Jumping Deer* (*Cervus leucurus*), and is very small, with horns about eighteen inches long, and much curved inward, very round, and not more than once or twice branched.

The other species is the *Black-tailed Deer* (*Cervus*

*macrotis* of Say), of a darker hue on the back, and bluish-grey, the belly yellow; its tail is shorter, not exceeding from eight inches to a foot, and the ears remarkably large, much like those of an Ass, and of the same dark color as the tail. This is a considerably larger animal than the *Chevreuril*, and less plentiful; both are found in the upland countries, all through the great range of mountains which extend across the lands of the Snake and Flathead Indians. I sent last October to England a young *Chevreuril* which I had killed on the Multnomak River, where these creatures are remarkably abundant. As nothing could be more interesting to me than a knowledge of this genus, I have instructed several of the hunters in the mode of preparing the skin, and furnished them with a small quantity of preserving powder; so that I do hope to obtain at least a pair of each.

There are two sorts of *Rabbit* and one of *Hare*, but none of them have I seen alive; the latter, which is only found in the interior, is said to be very large.

On the Multnomak there is a most singular kind of *Fox*, smaller than any other except the White Fox of Northeast America, its extreme length being only from thirty-three to forty inches. The hair is remarkably short and very coarse, and what is most singular, each hair is brown at the bottom, white in the middle, and black at the points, which gives the creature a light grey colour; the belly white, and the sides of the neck and body as well as the forehead, brown; the ears and nose somewhat black, and it has a grey beard and a black stroke from the shoulders to the tip of the tail. The propensity which this Fox exhibits for climbing trees distinguishes it from all the other species; he mounts with as much facility as a Squirrel. The first I saw was on the Multnomak, where this kind of Fox is by no means rare.

A large *Lynx* (*Felis rufa*, Richardson and Guldenst) was started by Mr. McLeod and me when we were on a hunting excursion in the month of February. The small Bulldog belonging to that gentleman caught it by the throat and killed it without any further trouble. It was a full grown female,

and the skin not being much injured, I mean to have it neatly preserved.

Several kinds of *Mice* and *Rats* are found on the banks of the rivers, but I have been unable to catch any more of a singular species with pouches, of which large numbers had visited us last autumn. The Ground Rat, or *Arctomys* (*Arctomys brachyurus?*), of whose skins the Chenook and other tribes of Indians make their robes, I hear are plentiful in the upper parts of the Cowalidsk River, but my enfeebled state when I was there last November prevented my hunting for any, and my subsequent attempts have been unsuccessful.

On the Multnomak River, about thirty-six miles above its junction with the Columbia, there are fine falls, about forty three feet in perpendicular height, across the whole river in an oblique direction; when the water is low they are divided into three principal channels, but when it is high the whole stream rushes over in one unbroken sheet. This place was at one time considered the finest hunting ground for *Beaver* (*Castor Fiber*, var. *Americanus*), west of the Rocky Mountains, and much have I been gratified in viewing the lodges and dams constructed by that wise and industrious little animal. The same place is frequented by large numbers of a species of *Deer* (probably the *Cervus Wapiti* described as being seen by Captain Franklin's party); but though seventeen of these creatures, male and female, were killed during a stay that I made there in autumn, 1825, only a small young male, about four months, could be ceded to me for preservation, owing to the great scarcity of provision.

The quantity of salmon (*Salmo Scouleri?* Richardson) taken in the Columbia is almost incredible, and the Indians resort in great numbers to the best fishing spots, often traveling several hundred miles for this purpose. The salmon are captured in the following manner: Before the water rises, small channels are made among the rocks and stones, dividing the stream into branches, over which is erected a platform or stage on which a person can stand. These are made to be raised, or let down, as the water falls or rises. A scoop net, which is

fastened round a hoop and held by a pole twelve or fifteen feet long, is then dropped into the channel, which it exactly fits, and the current of the water carrying it down, the poor salmon swims into it without being aware, when the individual who watches the net instantly draws it and flings the fish on shore. The handle of the net is secured by a rope to the platform, lest the force of the water should drive it out of the fisher's hand. The hoop is made of *Acer Circinatum*, the net of the bark of an *Apocynum*, which is very durable and tough, and the pole of pine wood. The salmon is of good quality, generally weighing from fifteen to twenty-five pounds, sometimes more. I measured two—the first was three feet five inches long from the snout to the tip of the tail, and ten inches broad at the thickest part, it weighed thirty-five pounds; the other was three feet four inches in length, nine inches broad, and a little lighter. Both were purchased for two inches of tobacco (about half an ounce), and value two pence. In England the same quantity of salmon could not be obtained under £2 or £3, nor would it eat so nicely crisped (a great point with epicures) as mine has done; when cooked under the shade of a princely pine far removed from the abodes of civilized life. It is wonderful how much comfort, at least how much of the feeling of it, can consist with such a place, and under such circumstances, where I have been surrounded by hundreds of individuals who had never seen such a white face as mine before, and whose intentions, were I only to judge by their weapons and appearance, were very hostile. Great was their astonishment when, after having eaten my salmon, I prepared an effervescing draught, and swallowed it, *boiling*, as they believed. Their belief in good and bad spirits made them consider me as one of the latter class, and when, besides drinking this “boiling water,” they saw me light a tobacco pipe with my lens, they called me *Olla Piska*, which in Chenook language signifies *Fire*. A pair of spectacles which I placed on my nose caused no less surprise, and the hand was immediately laid on the mouth in token of dread and astonishment. On sandy shores the salmon is caught as

in England, with a draught net, also made of *Apocynum* bark, and floated with bits of wood, particularly where the bottom of the river is free from rocks or stumps.

The *Sturgeon* (*Accipenser transmontanus*, Richardson) attains a length of ten feet, and a weight of 400 to 500 pounds in the Columbia. One of these was presented me by my Indian friend, Cockqua, some months ago, and as to eat the whole was a feat even surpassing the powers of "one of King George's chiefs," I requested him to select the part which he considered the best, and cook it for me. This request he took as a great compliment, and I must do him the justice to say that he afforded me the most comfortable meal I had enjoyed for a considerable time, out of the head and spine of this fish.

A small *Trout* is also found abundantly in the creeks of the Columbia.

Among the most interesting of the plants which I gathered last year is a species of Tobacco, the *Nicotiana pulverulenta* of Pursh, correctly surmised by Nuttall to grow on this side of the Rocky Mountains; though whether this country, or the Rocky Mountains themselves, or the banks of the Missouri, be its original habitat, I am quite unable to say. I am, however, inclined to think that it is indigenous to the mountains, where the hunters say that it grows plentifully, especially in the country of the Snake Indians, who may have brought it from the headwaters of the Missouri, which they annually visit, and distributed it thus in both directions, east and west of the great chain of the Rocky Mountains. I first saw a single plant of it in the hand of an Indian at the Great Falls of the Columbia, but though I offered two ounces of manufactured tobacco, an enormous remuneration, he would on no account part with it. The *Nicotiana* is never sowed by the Indians near the villages lest it should be pulled and used before it comes to perfect maturity; they select for its cultivation an open place in the wood, where they burn a dead tree or stump, and strewing the ashes over the ground, plant the tobacco there. Fortunately, I happened to detect one of these little plantations, and supplied myself, without delay or immediate

stipulations for payment, with both specimens for drying and seeds. The owner, whom I shortly met, seeing the prize under my arm, appeared much displeased, but was propitiated with a present of European tobacco, and becoming good friends with me, gave the above description of its culture, saying that wood ashes invariably made it grow very large.

I was much disappointed at being unable to obtain cones of a fine *Pinus* which grows abundantly on the banks of the Columbia. The trees were too large to be felled with my hatchet, and, as to climbing, I had already learned the propriety of leaving no property below on such occasions. The top of the tree, where the cones hang, was also too weak to bear me, and its height so great that all my attempts to bring them down by firing at them with swan-shot were unsuccessful.

On the 20th of February, Jean Baptiste McKay, one of the hunters, returned to the establishment from his hunting excursion to the southward, and brought me one cone of the species of *Pinus*, which I had requested him to procure last August, when I was at the Multnomak. The first knowledge I had of this grand tree was derived from the very large seeds and scales of the cone which I had seen in the Indian's shot-pouch. After treating the latter to a smoke, which must be done before any questions are put, I inquired and found that he had brought this prize from the mountains to the southward, and as McKay was going in that direction, I begged him to procure me twelve cones, a bag of seeds, a few twigs and some of the gum. Being, however, late in autumn ere he arrived at the place where the trees grow, all the seed was gone, and he therefore brought only a cone to show me; but as he gave strict orders to his Indian friends, I feel certain of securing abundance of it in the summer. This species belongs to Pursh's second section; the tree measures from twenty to fifty feet in circumference, and is one hundred and seventy to two hundred and twenty feet high, nearly unbranched to within a short distance of the top where it forms a perfect umbel. The trunk is remarkably straight, the wood fine, and yielding a great quantity of resin. Growing trees,

which have been burned by the natives to save the trouble of felling them or of collecting other fuel, a practice to which they are greatly addicted, produce a quantity of a saccharine substance, used for seasoning in the same way as sugar is by civilized nations. The cone measured sixteen inches and a half in length, and was ten inches round at the thickest part. The country of the Umpqua Indians, two degrees south of the Columbia, produces this tree in the greatest abundance. The seeds are collected in the end of summer, dried, pounded, and made into a sort of cake which is considered a great dainty. To my inquiries respecting it, the poor Indian answered by repeated assurances that he would give me plenty of this cake when I visited his country, which is the surest proof of its being much prized, as these people will, on every occasion, offer the greatest rarity or delicacy to a stranger. The same person brought me also an Elk's snare and a netted purse of ingenious workmanship, made of a most durable grass, which, from what I have seen, will probably prove a new species of *Helonias*. Of this plant he has also promised to procure me roots and seeds.

(To be continued.)